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Claims

[c1] What is claimed is:

1.A re-performable spin-on process comprising:

performing a spin-on process for forming a first dielectric layer on a semiconductor wafer;

performing an examining step on the first dielectric layer, the first dielectric layer conforming to a predetermined condition;

performing an etching process for completely removing the first dielectric layer;

cleaning the semiconductor wafer through use of a wet scrubber;

drying the semiconductor wafer; and

re-performing the spin-on process for forming a second dielectric layer on the semiconductor wafer;

wherein the semiconductor wafer comprises a plurality of metal interconnecting wires and the first dielectric layer is formed over the metal interconnecting wires.

[c2] 2.The process of claim 1 wherein the examining step is a measurement of a film thickness and the predetermined condition indicates poor thickness uniformity of the first dielectric layer.

[c3] 3.The process of claim 1 wherein the examining step is a cleanness inspection and the predetermined condition indicates that the first dielectric layer is contaminated by chemical solution or particles.

[c4] 4.The process of claim 1 wherein the first dielectric layer and the second dielectric layer are both composed of a spin-on glass (SOG) material.

[c5] 5.The process of claim 1wherein the first dielectric layer and the second dielectric layer are both composed of a dielectric material having a low dielectric constant.

[c6] 6.The process of claim 1 wherein the etching process is a dry etching process.

[c7] 7.The process of claim 1further comprising forming a barrier layerbetween the metal interconnecting wires and the first dielectric layer.

[c8] 8.The process of claim 7 wherein the barrier layer is a silicon oxide layer that is formed through performing a chemical vapor deposition (CVD).

[c9] 9.The process of claim 1 wherein the etching process is a wet etching process.

[c10] 10.The process of claim 9 wherein the wet etching pro-

cess utilizes buffered hydrofluoric (BHF) as an etching solution.

[c11] 11.A re-performable spin-on process comprising:
performing a chemical vapor deposition (CVD) process for forming a silicon oxide layer on a semiconductor wafer;
performing a spin-on process for forming a first dielectric layer on the silicon oxide layer;
performing an examining step on the first dielectric layer, the first dielectric layer conforming to a predetermined condition;
performing an etching process for completely removing the first dielectric layer;
cleaning the semiconductor wafer through use of a wet scrubber;
drying the semiconductor wafer; and
re-performing the spin-on process for forming a second dielectric layer on the semiconductor wafer;
wherein the semiconductor wafer comprises a plurality of metal interconnecting wires and the silicon oxide layer is formed over the metal interconnecting wires.

[c12] 12.The process of claim 11wherein the examining step is a measurement of a film thickness and the predetermined condition indicates poor thickness uniformity of the first dielectric layer.

[c13] 13.The process of claim 11 wherein the examining step is a cleanness inspection and the predetermined condition indicates that the first dielectric layer is contaminated by chemical solution or particles.

[c14] 14.The process of claim 11 wherein the first dielectric layer and the second dielectric layer are both composed of a spin-on glass (SOG) material.

[c15] 15.The process of claim 11wherein the first dielectric layer and the second dielectric layer are both composed of a dielectric material having a low dielectric constant.

[c16] 16.The process of claim 11 wherein the etching process is a wet etching process.

[c17] 17.The process of claim 16 wherein the wet etching process utilizes buffered hydrofluoric (BHF) as an etching solution.